

preselect/predetermine/preprogram the duration of the reminder/alarm/alert; reselect/predetermine/preprogram the type of the reminder/alarm/alert; reselect/predetermine/preprogram timeout or quiet times where no reminder/alarm/alert is given (and in some embodiments, where this is selected by the user, upon wake up, the device may display the reminder/alarm/alert, and/or in some embodiments, at the end of the preselected/predetermined/preprogrammed time-out, any reminder/alarm/alert may be given).

[1428] In some embodiments where, for example, the system may remind the user to change their cannula, for example, 3 days after filling the cannula. The user may request, for these reminders, that for this reminder, a reminder timeout between 10 pm and 6 am. Thus, the user will not be awoken to remind them to change the cannula. In some embodiments, when the user wakes up the device, for example, at 7 am, the reminder, if applicable, may be indicated, which, in some embodiments, may be indicated by the method selected/preprogrammed/predetermined by the user.

[1429] Referring now also to FIGS. 239 and 240, another embodiment of the AVS assembly 7000 is shown. With respect to FIG. 240, the AVS assembly 7000 includes a speaker 7002 and two microphones, one shown as 7008. The AVS assembly 7000 includes a “figure eight” seal 7010. The AVS assembly 7000 includes a top housing 7004 and a bottom housing 7006.

[1430] Referring now also to FIG. 239, the AVS membrane 7012, which, in the exemplary embodiment, is located in the disposable housing assembly 6000, and an acoustic seal 7014 is shown. In some embodiments, the acoustic seal is overmolded onto the reusable housing assembly 6004 portion and is therefore located between the disposable housing assembly 6000 and the reusable housing assembly 6004. When the reusable housing assembly 6004 is engaged with the disposable housing assembly 6000, the acoustic seal 7014 comes into contact with surfaces on the disposable housing assembly 6000 and a seal is made.

[1431] In this embodiment of the AVS assembly, a spring is not included; however, in various other embodiments of this embodiment of the AVS assembly, a spring may be included. In the embodiments without a spring, the AVS membrane 7012 may be made from SEBS and may include properties that are desirable for the AVS membrane 7012.

[1432] The membrane in the disposable housing assembly 6000 may be made from plastic and in some embodiments, more than one type of plastic. For example, in some embodiments, the membrane may be made from SEBS and SANTOPRENE. In some embodiments, the AVS membrane 7012 is made from SEBS and the remainder of the membranes is made from SANTOPRENE. In various embodiments of the membrane, the membrane may be at least partially coated with parylene, and in some embodiments, the entire membrane is coated with parylene.

[1433] Referring now also to FIGS. 244A and 244B, another embodiment of the disposable housing assembly 7000 is shown. The disposable housing assembly 7000 includes a tubing 7034 and a cannula assembly 7026, similar to those describe above. With respect to the disposable housing assembly 7000, in some embodiments, the disposable housing assembly 7000 includes a fluid path 7038 that may, in some embodiments, include a chevron path 7040. This may be desirable/beneficial for many reasons, includ-

ing, but not limited to, minimizing the amount of air that may become trapped in the fluid path 7038.

[1434] Referring now also to FIGS. 245A and 245B, in some embodiments of the disposable housing assembly 7000, the pump chamber membrane 7042 may be shaped as a pre-formed dome like structure. In some embodiments this may be beneficial/desirable for many reasons, including, but not limited to, providing a higher vacuum force on the reservoir to pump greater volumes of fluid per pump stroke and moving more fluid from the reservoir to the pump chamber with less displacement. In some embodiments, and as shown in FIG. 245B, the pump plunger 7044 may be pre-engaged with the pump chamber membrane 7042. Thus, as the pump plunger 7044 is actuated by the actuator assembly, the pump plunger 7044, already engaged with the pump chamber member 7042, may travel less distance to pump fluid from the reservoir 908. This may be beneficial for many reasons, including, but not limited to, exerting less wear and tear on the shape memory alloy and therefore, increasing the longevity of the shape memory alloy. Thus, the pump may move more fluid using less force, i.e., the pump is more efficient.

[1435] Referring now also to FIGS. 246A and 246B, in some embodiments, the cover 7046 of the reusable housing assembly, which may include at least some of the features described above with respect to the reusable housing assembly, may include a speaker 7048. The speaker 7048 may be heat staked in the cover 7036. A printed circuit board (“PCB”) 7050 may also be located adjacent to the speaker 7048, in some embodiments, which may include, in some embodiments, spring loaded contacts 7052 such that the speaker 7048 may be connected to the PCB through spring loaded electrical contracts. Placement of the speaker 7048 in the cover 7046 of the reusable housing assembly may be desirable/beneficial for many reasons, including, but not limited to, providing louder/better sound quality to the user by placement of the speaker 7048 closer to the “outside” of the infusion pump system.

[1436] In various embodiments, these methods may be used with respect to any device and/or medical device and/or any controller and/or remote controller for any device and/or medical device and/or any device used in conjunction with or in association with any device and/or medical device.

[1437] A number of embodiments have been described. Nevertheless, it will be understood that various modifications may be made. Accordingly, other embodiments are within the scope of the following claims.

[1438] While the principles of the invention have been described herein, it is to be understood by those skilled in the art that this description is made only by way of example and not as a limitation as to the scope of the invention. Other embodiments are contemplated within the scope of the present invention in addition to the exemplary embodiments shown and described herein. Modifications and substitutions by one of ordinary skill in the art are considered to be within the scope of the present invention.

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)